Please replace lines 1-3 on page 13 as follows: --

FIG. 21B depicts a (1 2 3) permutation on an 8×8 exchange;

FIG. 21C depicts a (3 1) permutation on an 8×8 exchange;

FIG. 21D depicts a combined (1 4)(2 3) permutation on an 8×8 exchange;--.

Page 108, replace line 18 as follows: --and all output addresses, subject to the following constraint: under the matching, the--.

Page 109, replace line 1 as follows: --output addresses are a circular unimodal function of the input addresses. This constraint is--.

In the Claims:

Please cancel claims 1-21.

Please add claims 22-42 as follows:

--22. A method for implementing a class of N×N circular-unimodal nonblocking switches each serving a connection request to route a plurality of incoming signals, and for enabling the service of any connection request in a nonblocking way on the condition that the connection request is compliant to certain constraints, the method for each of the circular-unimodal nonblocking switches comprising

configuring a switch defined by a set of connection states and having an array of N input ports with N distinct input addresses 0, 1, ... , N–1 and an array of N output ports with N distinct output addresses 0, 1, ... , N–1, the switch accommodating every complete matching between all N input addresses and all N output addresses by

one of its connection states on the condition that, under the matching, the output addresses are a circular unimodal function of the input addresses, where a complete matching between all N input addresses and all N output addresses is equivalent to a combination of N concurrent point-to-point connections from the N input addresses to the N output addresses, and wherein said constraints on the connection request are that: there exists a combination of N concurrent point-to-point connections corresponding to a complete matching accommodated by the switch such that each of the incoming signals in the connection request arriving at a distinct one of the input ports and destined for a distinct one of the output ports determines a point-to-point connection which coincides with one of the point-to-point connections of said combination of N concurrent point-to-point connections accommodated by the switch, and

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routing the incoming signals from their respective input ports to the corresponding output ports by activating one of the connection states such that the activated one of the connection states accommodates the connection request subject to said constraints on the connection request.

23. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as an N×N k-stage switching network composed of k stages of nodes, an interstage exchange between any succeeding two of the k stages, an input exchange and an output exchange, and wherein each node is filled with another switch.

24. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as an N×N k-stage switching network composed of k stages of

nodes, an interstage exchange between any succeeding two of the k stages, an input exchange and an output exchange, and wherein each node is filled with a circular-unimodal nonblocking switch.

25. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a two-stage interconnection network composed of a first stage of nodes being the input nodes and a second stage of nodes being the output nodes, an interstage exchange, and an input exchange corresponding to the interstage exchange prepended to the network, and wherein each node is filled with a circular-unimodal nonblocking switch.

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26. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as an X2 interconnection network having nodes and wherein each node is filled with a circular-unimodal nonblocking switch.

27. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as an X2 interconnection network having nodes and wherein the nodes are filled with a plurality of circular-unimodal nonblocking switches.

28. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a recursive X2 interconnection network having nodes and wherein each node is filled with a circular-unimodal nonblocking switch.

29. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a recursive X2 interconnection network having nodes and wherein the nodes are filled with a plurality of circular-unimodal nonblocking switches.

30. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a recursive X2 interconnection network having nodes and wherein each of the nodes is a cell and each cell is filled with a 2×2 circular-unimodal nonblocking switch.

31. The method as recited in claim 30 wherein the 2×2 circular-unimodal nonblocking switch is a switching cell.

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32. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a recursive X2 interconnection network of cells with each cell filled with a 2×2 circular-unimodal nonblocking switch.

33. The method as recited in claim 32 wherein the 2×2 circular-unimodal nonblocking switch is a switching cell.

34. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a banyan-type network whose trace and guide are both monotonically increasing and wherein each of the 2×2 nodes of the banyan-type network is filled with a 2×2 circular-unimodal nonblocking switch.

35. The method as recited in claims from 34 wherein the 2×2 circular-unimodal nonblocking switch is a switching cell.

36. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a recursive plain 2-stage interconnection network of cells prepended with a swap exchange and wherein each cell of the network is filled with a 2×2 circular-unimodal nonblocking switch.

37. The method as recited in claim 36 wherein the 2×2 circular-unimodal nonblocking switch is a switching cell.

38. The method as recited in claim 22 wherein the configuring a switch includes constructing said switch as a divide-and-conquer network of cells prepended with a swap exchange and wherein each cell of the network is filled with a 2×2 circular-unimodal nonblocking switch

39. A class of N×N circular-unimodal nonblocking switches each serving a connection request to route a plurality of incoming signals, and for enabling the service of any connection request in a nonblocking way on the condition that the connection request is compliant to certain constraints, each of the circular-unimodal nonblocking switches comprising

a switch defined by a set of connection states and having an array of N

input ports with N distinct input addresses 0, 1, ... , N–1 and an array of N output ports with N distinct output addresses 0, 1, ... , N–1, the switch accommodating every complete matching between all N input addresses and all N output addresses by one of its connection states on the condition that, under the matching, the output addresses are a circular unimodal function of the input addresses, where a complete matching between all N input addresses and all N output addresses is equivalent to a combination of N concurrent point-to-point connections from the N input addresses to the N output addresses, and wherein said constraints on the connection request are that: there exists a combination of N concurrent point-to-point connections corresponding to a complete matching accommodated by the switch such that each of the incoming signals in the connection request arriving at a distinct one of the input ports and destined for a distinct one of the output ports determines a point-to-point connection which coincides with one of the point-to-point connections of said combination of N concurrent point-to-point connections accommodated by the switch, and

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control circuitry, coupled to the switch, for routing the incoming signals from their respective input ports to the corresponding output ports by activating one of the connection states such that the activated one of the connection states accommodates the connection request subject to said constraints on the connection request.

40. The circular-unimodal nonblocking one of the switches as recited in claim 39 wherein the switch is constructed by an N×N k-stage switching network composed of k stages of nodes, an interstage exchange between any succeeding two of the k stages, an input exchange and an output exchange, and wherein each node is filled with another

switch.

41. The circular-unimodal nonblocking one of the switches as recited in claim 39 wherein the switch is constructed by an N×N k-stage switching network composed of k stages of nodes, an interstage exchange between any succeeding two of the k stages, an input exchange and an output exchange, and wherein each node is filled with another circular-unimodal nonblocking switch.

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42. The circular-unimodal nonblocking one of the switches as recited in claim 39 wherein the switch is constructed from a two-stage interconnection network composed of a first stage of nodes being the input nodes and a second stage of nodes being the output nodes, an interstage exchange, and an input exchange corresponding to the interstage exchange prepended to the network, and wherein each node is filled with another circular-unimodal nonblocking switch.--.